AMERICAN
GAS JOURNAL
Established 1859 *Pioneer of the Gas Industry*

VOL. 126 No. 12
WHOLE No. 3281

NEW YORK, SATURDAY, MARCH 19, 1927.

Subscription, $2 Per Year
$4 Canada $5 Foreign

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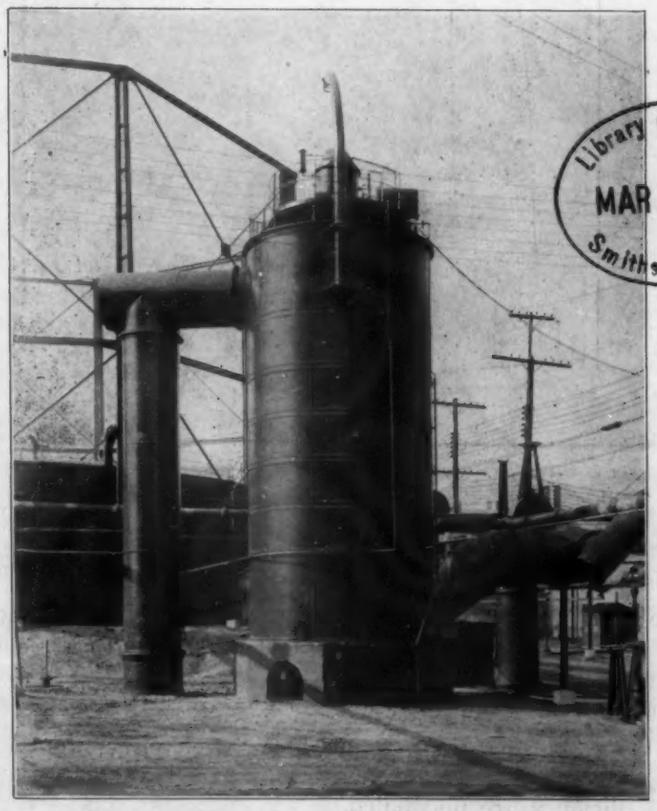

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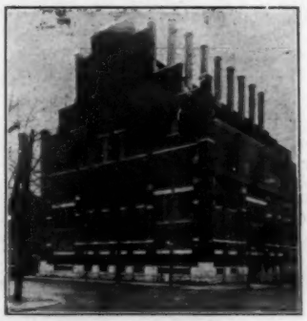
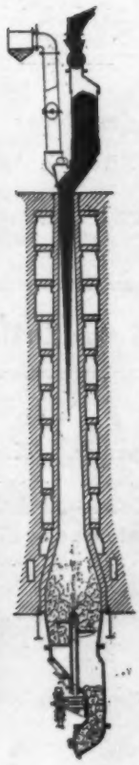
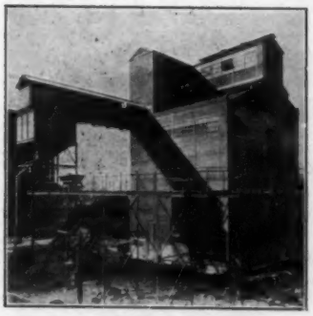
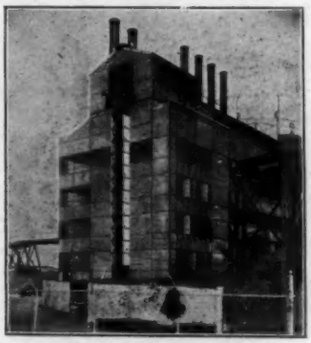


Toronto, Ont.
5,000,000 cu. ft. per day

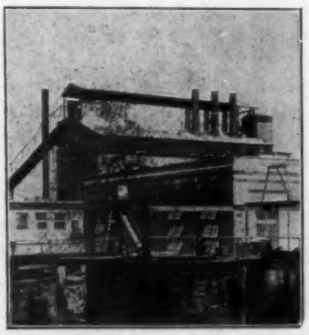




Fargo, N. D.
800,000 cu. ft. per day



Portland, Me., 2nd Plant
750,000 cu. ft. per day



Fall River, Mass.
1,600,000 cu. ft. per day

Plants *Completed* in 1926

Also Completed—Stamford, Conn., 1,100,000 cu ft.; Buenos Aires, 3,500,000 cu. ft.

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Toronto, Ont.	600,000 cu. ft.	Pawtucket, R. I.	1,060,000 cu. ft.
		Faribault, Minn.	400,000 cu. ft.

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American Gas Journal

SIXTY-SEVENTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

S. G. KRAKE, Pres. and Treas. C. S. MYERS, Vice-Pres. A. M. GLEASON, Sec'y

STANTON G. KRAKE, Managing Editor HENRY M. RILEY, Editor

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Subscription $3.00 per year, including postage, in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents.

AMERICAN GAS JOURNAL, March 19, 1927. Vol. 126. No. 12. Published weekly by American Gas Light Journal, Inc., New York, N. Y. Entered as second-class matter Jan. 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

AMERICAN
GAS JOURNAL
Established 1859— Pioneer of the Gas Industry

Vol. 126. No. 12. **NEW YORK, MARCH 19, 1927.** **Whole No. 3624.**

Office Methods in Gas Companies*

IX. The executive and the files

G. L. Harris

WHAT interest does the executive of the gas company have in files and filing? The mere filing of papers is simple: but to secure exactly the papers wanted, immediately when they are wanted, and to have these papers so filed that they function constantly as an active part of the life of the office, is not so simple. To secure full value from the investment represented by the filing equipment, by the floor space this equipment occupies, and by the clerical help required in operating the files—that is an executive problem, and a real one.

Certainly this full value can not be obtained from files that act principally as dead storage for business papers; and that is what happens where the executive does not take an active interest in the organization, and in the daily functioning, of the files. This does not mean that the executive should do the filing work, of course, or even that he should devote his time to overseeing the work. But he should know that the files of his office are carrying their full burden of the daily work, and that his employees are making full use of the possibilities presented by the files.

The executive should know that his files are dependable; that he can trust the most valuable papers and facts to them, and that when he wants those papers or facts back he will get them. He should be certain that at any time he wants the entire story on any phase of his business, no matter how long a period is covered by that story, the files will produce it for him, intact and in order.

The Files Should Render Constant Service

Practically every routine in the office requires, and should have, constant assistance from the files. Every sales order, every purchase order, every collection proceeding, should be watched over by the files. And the files should see to it that every single one of such routine matters is kept under active consideration until it has been carried through to a conclusion. In short, the files should automatically act as clerks in the handling of office routine.

It is up to the executive to see that his employees are educated in filing. They must know the office routine, surely. The ideal situation is for the executive to have prepared for his employees an office manual which explains the work of the office, including the organization of the files, in detail. Such office manuals are becoming more and more generally acknowledged as the best means of training new employees.

What can the executive do to see that he is receiving full value from the files? Obviously, he can not take time to set up a complete filing system, even if he has the detailed knowledge of filing methods and equipment which he pays his file clerks and filing supervisors for having. But he can learn a great deal in a short visit to the files.

He can first notice the appearance of the files. Are the folders neatly arranged, clearly labeled; "respectable" in appearance? Or are they over-full; are they jammed and crammed into the drawers of the filing cabinet; are they dog-eared and torn, with their contents projecting from them at various angles?

If the folders are over-full, there is either lack of care or lack of organizing ability manifest on the part of the file clerk. The contents of such folders should be subdivided into dated periods, or into minor divisions of the subject represented.

There should likewise never be any occasion for over-filled drawers, with folders crowded into them. If the file is properly planned, each drawer will be approximately half full at the middle of the year, two-thirds full at the end of eight months, etc. The executive should demand that this be so, since it is definitely possible, on the basis of past experience, to anticipate the needs of the files for the coming year.

Three Questions to Be Answered

The executive can learn, too, how much use is being made of the files, who is using them and why, and how the files are responding when they are called on. He can easily find out what the attitude of his office is toward the files by noting what papers the department heads and clerks entrust to the files and what papers they insist on keeping on their own

* This is the ninth of a series of articles by Mr. Harris. The tenth will appear in an early issue.

desks. Let him see where the current papers, in use that very day, are handled. Then he will know whether he is paying for dead storage or for live participation in office affairs.

The executive can get a pretty complete analysis of the filing situation if he will look for the answer to three questions. The first is this: for every routine matter which is in process of completion, is there a copy of the original papers in the files?

There should be. Take, for example, a request for a quotation issued by the purchasing department. There should be in the files a copy of this request, showing the names of all the firms to which it was sent. It should be filed under the name of the article which is being purchased. In fact, by referring to the files it should be possible to learn at once exactly what requests for quotations are outstanding, what replies have been received, and what has been done with the replies. More than this, the same files should show equally promptly the entire quotation story of any item purchased during the last year.

Take the handling of complaints as another example. The files should contain a copy of every complaint under consideration, and with each complaint a copy of the action taken in settling it. The same thing is true of collections, of unpaid invoices, of sales orders, of service orders.

The executive can secure the necessary information by a very brief analysis of any office routine. He will learn how many copies of an order are made, where each copy goes, and why. He will see at once whether a copy is kept in the files as a record of an order in process of execution. He can see then whether a definite plan has been set up by which the file copy actually controls the movements of the other copies of the order. Such a plan is known as a "follow-up" plan, which is the subject of the second executive question about the files: is there a filing plan in operation by which every matter under consideration will be followed up at a definite, predetermined time?

There should be. The files should automatically bring up for consideration every routine matter not completed within the proper period. Further, they should bring to the attention of the executive, or of any of his clerks, any special matter which they wish to entrust to the files.

Nothing could be more wasteful and costly than to allow the individual clerks and department heads to keep current papers on their desks—so that they can be sure not to forget them. But don't make the mistake of blaming the clerks for this condition until you are sure the files are prepared to do the remembering for them.

Follow-Up Filing Methods

Offices have generally recognized the need for an adequate follow-up system, and many ingenious plans have been devised. Every executive should be familiar with the most common methods, and should know which method is being used in his office.

Although we have discussed these methods in previous articles in this series according to their particular application to problems of the gas company, we shall restate them here from the point of view of the executive.

1. The Tickler Method—This is the simplest, most effective way of following up papers. The clerk indexing a paper or letter which by its nature indicates that a reply is expected places the date on which the follow-up is to occur in the lower right hand corner of the paper. When the paper is filed, this becomes the upper right hand corner. The date is usually determined by fixed follow-up periods assigned to different types of papers.

For every paper marked with a follow-up date, a tickler is made: a small slip of paper showing the name under which the paper is filed, its date, and the follow-up date. The tickler is filed in a small box file containing guides numbered from 1 to 31, each guide representing a day of the month.

Each morning the file clerk removes the ticklers filed behind the date guide for that day. She then "pulls" the corresponding letters or papers from the files and puts them on the desks of the individuals who are to handle them, and destroys the ticklers. In case a reply is received, before the follow-up date arrives, to a letter marked for follow-up, the file clerks knows that a tickler has been made when she sees the date notation on the filed letter, and she can destroy it.

A tickler file is useful in many other ways. Ticklers can be made out for duties to be performed, possibly, months in advance, as for example: "Mr. Harmon, renew coal contract, July 5, 1927." On the proper day, the tickler will remind Mr. Harmon of this duty. Nor is a separate file needed for this type of tickler. The one dated file will care for every possible follow-up problem that may come up.

2. The Dated Correspondence File—With this method, the carbon copy of the paper to be followed up is itself filed directly in a dated file. No tickler is made. No notations on the carbon copy are necessary, since the date of the letter serves as a guide to the follow-up date.

This method is quick; and it would be very successful if replies were never received before the ten-day period was up. The difficulty, when such premature replies are received, is obvious. Instead of the file clerk being able to go directly to the correct alphabetical position of the letter in the file, it is necessary for her to hunt through the various dated piles of letters in the follow-up file.

The principal objection to the dated file method, therefore, is that it causes the correspondence to be separated between two files. You can never be sure then, when you call for the file on a certain subject, that some later letter is not in the dated file.

3. Extra Carbon Copy Method—This method was designed to answer the objection to the dated file which we stated in the last paragraph, just above. An extra carbon copy of every letter is made, on a distinctive colored paper. One carbon copy is filed in the regular correspondence file; the other is filed in the dated file.

(Continued on page 18)

The Summer Refrigerating Load

Gas refrigeration principle can be used to cool home in Summer

J. E. Bullard

THE idea that the refrigerating machine cooling a really handsome food box is a summer load is sadly out of date. It is as out of date as the idea that a soda fountain in a drug store can be operated only during the hot months. People fifty years old can well remember the time when that new fountain at the corner drug store was closed down completely when cold weather approached and the space used for display purposes, perhaps an enticing display of patent medicines.

Ice companies have spent a lot of money creating a winter demand for domestic refrigerating. Better designed and very attractive refrigerators have done as much if not more. Perhaps more than anything else however, has been the perfectly uniform temperature that is maintained by refrigerating machines. The housewife soon learns that food is kept better and is more tasty if kept in a machine refrigerated box than it is if kept during the winter in a box on the outside of the house where the temperature varies all the way from considerably below freezing up to one that permits of decay.

So the gas fired refrigerating machine can be looked upon as an appliance that will consume about the same amout of gas each month of the year. Its installation merely means that the customer who is now being carried at a loss begins to show a profit because of the increased consumption. To gain a summer refrigerating load it is necessary to find some use for refrigerating that will not be needed except during the summer. Cooling food is not such a load. Cooling rooms is, and there are now plenty of people who would be willing to pay the cost of keeping the rooms of their homes cool on uncomfortably hot summer days if they could be shown a practical way of doing it.

Year Round Uniformity of Temperature Is Desirable

Maintaining a uniform temperature in homes the year round instead of merely heating in the winter is obviously desirable. It means that the excessive winter peak due to house heating that some gas companies fear ceases to remain so much the bugbear it now is. This thought is of course uppermost in the minds of gas men who are already facing the problem of increasing summer consumption toward the end that the winter load will not remain so much larger than the summer load as they now find to be the case. All the year round temperature control means a far more uniform yearly load than house heating.

A little more development work on gas fired refrigerating machines, together with the building of them in units large enough to do the work well gives us a cooling system that is practical. Moreover such a system will require no more servicing than a house heating system and will maintain the temperature and humidity at the desired point even on hot humid days of August. As a result the householder will not only have a home where the temperature is comfortable every day of the year but at the same time he will have done away of the necessity of taking off window screens and putting on storm windows in the fall and reversing the process in the spring.

Well insulated homes will be built and instead of detachable storm windows, two sets of window sashes will be built into the frames with the glass surfaces just the right distance apart to give the best insulating effect.

Consideration of Heating System As a Cooling Medium

Rooms could be cooled by circulating cold brine through a hot water or steam system, but the results would be very unsatisfactory. Changing the plant from a heating to a cooling system would constitute a rather laborious job. If in the hot water system the water itself were cooled and circulated there would still be complication in changing from heating to cooling. In addition a pump would be absolutely necessary to create the circulation desired, for the heating system is designed to circulate heat and not cold, and cold flows in the opposite direction from heat, so there would constantly be a back pressure to overcome.

Then while the system is transformed to a cooling system there might come some cool days when a little heat is required, and to maintain a uniform temperature it is necessary to have the system changed automatically from cooling to heating or from heating to cooling. Even after all these problems have been solved the cooling system would fail to give satisfactory results.

Suppose that the outside temperature is 95 degrees and that the humidity is very high. What happens when this air is cooled down to 70 degrees? Obviously the same thing will happen that happens in the cool of night. There will be a heavy deposit of dew over everything. Every surface will be wet. The wall paper will begin to become detached from the wall. The entire house will be damper than a cool cellar on a hot day.

Such a condition as this would prove to be very far from satisfactory so it is necessary to turn to some system where there is some form of humidity

(Continued on page 294)

GAS SECTION OF THE EMPIRE STATE GAS AND ELECTRIC ASSOCIATION HOLDS SUCCESSFUL MEETING

On March the tenth and eleventh the gas section of the Empire State Gas & Electric Association convened at Briarcliff Lodge, Briarcliff Manor, in a meeting replete with very good papers and an interchange of wholesome enjoyment between the two hundred-odd members present. One feature that made for a successful meeting was the fact that Briarcliff Lodge is located somewhat off the beaten path and, what with no outside attractions, the members held closely together.

After the customary formalities on the morning of the tenth the reading of the papers—all good ones—and the subsequent enlightening discussions got under way.

Mr. Seeley in his paper, "Recent Developments in Gas Manufacturing Methods and Equipment," brought out that the gas industry today needs high grade, educated men to run its plants; this in spite of the fact that many recording and automatic devices are in evidence.

In a paper entitled "Economics of Gas Transmission on Long Pipe Lines," Mr. J. K. Crowell solved some actual distribution problems. There were amply illustrated by way of curves "shot" on the screen.

Other papers dealt with the handling of coke, naphthalene scrubbing, static storage, sales of ammonia products, high pressure transmission mains and concluded with a description of the new Hunts Point coke oven plant. An inspection of this plant was made by a large number of those present on Friday afternoon.

The management of the Lodge provided a luncheon in the evening of the tenth for the members.

The following were the papers read, and addresses made:

Thursday, March 10th

Morning Session, 10 o'Clock

Address, H. M. Brundage, president, Empire State Gas and Electric Association; "Recent Developments in Gas Manufacturing Methods and Equipment," H. K. Seely, Syracuse Lighting Company, Syracuse; "Economics of Gas Transmission on Long Pipe Lines," J. K. Crowell, Westchester Lighting Company, Yonkers; "Operating Experience With Naphthalene Scrubbing," H. W. Terry, Jr., Consolidated Gas Company, New York City.

Afternoon Session, 2 P. M.

"Metering Gas in Large Volumes on Consumers' Premises," C. F. Ribley, Adirondack Power and Light Corporation, Schenectady; "Handling of Gas Coke," R. C. Edmunds, Utica Gas and Electric Company, Utica; "Possibility of Static Storage as Part of an Intermediate Pressure System," Joseph Lucena, Syracuse Lighting Company, Syracuse; "Survey of Uses and Sales of Ammonia Products in New York State," R. E. Kruger, Rochester Gas and Electric Corporation, Rochester.

Friday, March 11th

Morning Session, 10 o'Clock

"Activities of the American Gas Association Technical Section," W. C. Beckjord, Chairman; "Proposed Construction Methods for High Pressure Transmission Mains," L. E. La Row, Utica Gas and Electric Company, Utica; "Description of the New Hunts Point Coke Oven Plant," H. H. Himsworth, Superintendent, Hunts Point Plant, Consolidated Gas Company; Committee Report on Calorimetry Forms; Committee Report on Two Main Construction on Wide Streets; Report of Nominating Committee and Election of Officers.

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OUR OWN HISTORY CLASS

Dean Inge, the famous "Gloomy Dean," has had an up-to-date gas heating stove installed in the Deanery at St. Paul's, in London. This is the first time that modern heating equipment has invaded the Deanery, the old fashioned fireplace having been in order since the history of the Cathedral began, in the days of William the Conqueror.

Outline of Activities of the Technical Section, A. G. A., for Year 1927*

Walter C. Beckjord

(Continued from March 12th)

The major divisions of the work to be done are outlined as follows:

1. INVESTMENT COST

Under this heading will come a careful study of existing investment costs and an attempted prognostication of what these may develop into in taking care of future business.

2. PRODUCTION

This will involve a careful study of the existing production methods and their application to a wider field in the future. The engineers should carefully analyze their problem as they see it now and arrange their additional capacity which must be added from time to time, in a way that will best fit into the larger problems of the future. Great care must be given to the problems of specific gravity and lower B.t.u. Future capacity should be added in a way that will best fit in with the tremendous peak loads that the house heating load will bring on, and naturally in order that the business may be taken on at a price on which the gas undustry can make a profit the new units of capacity must be low in investment cost, probably of a type in which efficiency may be sacrificed in order to keep down fixed charges. In other words the capacity per unit of investment must be as large as possible—balancing fixed charges against efficiency.

Lower B.t.u. Standard of Pressing Moment

A lower B.t.u. standard would permit the utilization of lower cost fuel and this is an ultimate necessity which sooner or later the industry must take advantage of. The continuous disposition of residuals in competitive markets must be carefully considered because the very nature of the public utility business and the limitations of its rate structure are such that its income should not vary from year to year as may be permitted in commercial enterprises. Its margin of profit is small and its capital turnover period is long.

The present investment in gas manufacturing equipment is very large and naturally must be considered in planning for the future. The particular production problem now facing the industry is utilization of present equipment to the best possible advantage in conjunction with new construction.

3. DISTRIBUTION

After producing the gas in plants that are economically built and operated it will be necessary to get the gas to the ultimate consumer in the most economical manner. This will involve a careful study of the existing intermediate and low pressure transmission systems involving the use of district governors operating under pressures up to 15 pounds and an analysis to show the proper point at which high pressure distribution utilizing pressures up to 100 pounds with individual service governors on consumers' premises can be started.

Adaptability of Plain and Cast Iron Pipe

The adaptability of plain and cast iron pipe with various types of joints for high pressure work is now being demonstrated by actual use in many properties thus overcoming some of the objections to high pressure pipe systems where soil corrosion is a material factor in the use of steel pipe. A great deal of data is being gathered on soil corrosion and use of pipe coatings, all of which studies will be of great value in solving distribution problems.

In many localities high pressure distribution systems are now being used to take care of outlying territory where the higher investment cost in low pressure distribution systems would be economically out of the question.

The time has come not only for careful analysis of distribution problems, but for definite decision as to future procedure. The electrical industry has already met their problems in distribution by the high tension transmission line network, and nearly all the larger cosmopolitan areas are surrounded with high tension belt lines, feeding into city distribution circuits at strategic points.

Much higher distribution voltages are also used, and a greater utilization per pound of copper has been attained by using three phase four wire distribution as compared to the old single phase system.

Future gas distribution problems will be developed more in new territory than in existing territory already supplied by facilities limited somewhat by present installation, but even these facilities can be greatly augmented by additional sources of supply from high pressure transmission mains.

Gas and Electric Distribution Problems Similar

The problems of gas distribution are similar to electric distribution, and the high pressure transmission main will take care of greatly increased areas which are constantly developing outside our larger cities, and also the greatly increased peak loads resultant from large industrial and house heating business. This it will do at an economic investment cost and relatively high efficiency. In this way the problems of dehydration will be largely solved, thereby materially reducing maintenance expense on mains, services, governors and meters. All this tends toward the distribution of a uniform quality of fixed gas, which is absolutely essential if gas is to be used as a high grade fuel in modern specialized industry.

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* Address before the Gas Section of the Wisconsin Utilities Assn., Racine, Wis., February 24, 1927.

This involves a careful consideration of the industrial situation to see in what other fields gas can be used to economic advantage. It involves not only a question of cost in competing with other fuels, but also has to deal with special applications of gas to certain specific processes in which other fuels cannot be used. The chemical composition of gas may prove of great value in its application to industrial uses. There is certainly a great deal to be done in the way of improving the efficiency of industrial appliances, involving a study and use of regenerative and recuperative furnaces. There is also a field for application of high pressure gas in heat process work, thereby eliminating the necessity of compressed air supply.

Room for Improvement

There is no doubt but that progress has been made along the lines of industrial application of gas, but there is room for definite improvement not only in existing fields, but also in new fields. The industry sorely needs the development of automatic heat heating machinery for all sorts of heat treatment of all sorts of metals. This will involve the expenditure of large sums of money but in the long run it will materially reduce production costs.

Careful study and analysis will show what there is of value in this field and how the gas industry must prepare itself to meet these various problems.

There are many industries which operate to take care of seasonal variations in trade. They manufacture commodities during the off peak season in their business, getting ready for large demands when the commodities are actually sold to the ultimate consumer. This point is illustrated by the Christmas toy business, ice cream cone business, brick manufacturing and many others.

A Case in Point

In the brick making industry for example, off peak rates can be made to encourage this class of business, because bricks can be burned and stored very easily to take care of seasonal building operations. Any rate which leaves a margin of profit for the gas company over operating costs can be justified because this load comes at a time when part of the manufacturing equipment would otherwise be idle.

Careful studies should be made of all industrial applications to see where gas can be utilized in off peak or seasonal business, and sufficiently attractive rates should be made so that manufacturers can use gaseous fuel to their advantage.

5. RATES

This subject should be carefully studied and analyzed from the standpoint of giving the consumer the most for his money, and the investor in public utility securities a fair return, with assurance that the return will be properly protected, in order that he may be induced to invest in the undertaking.

The electric industry has spent a great deal of time and money in developing load factor to the high point it has now attained, and its form of rate structure has greatly aided that development. It is continually striving to find new fields of application for electrical energy. Even in the electrical industry, however, the rate structure is such that many consumers are served at a loss—and these deficits must of necessity be loaded on the profitable consumers. In the past, political expediency has been stressed too much in consideration of a proper rate structure to apply to the small consumer. Analyses have been made which indicate the small consumer is not the laboring man with a large family, but in many cases the professional office, cigar stands, jewelers and places where gas is used for convenience and not in quantity, at which places they are amply able to pay for all the service properly costs. Further careful analysis should be made to demonstrate this point. It would seem wise for the gas industry to think more in terms of cost of service, load factor and proper rate structure. There will be tremendous valleys in the load curve to fill in resultant from house heating business. Careful and intensive study should be made of a proper off peak rate structure to develop this class of business.

House Heating Development Depends on Locality

House heating business can undoubtedly be developed in some localities to much better advantage than in others, depending on climatic conditions, but of necessity house heating by gas will always cost more than with raw fuel. Its greater convenience and cleanliness will be the dominating factor. The A. G. A. has issued a pamphlet on "Prize Plans" prepared for architects and builders, in which the subject of house heating by gas is covered very well.

The natural gas people feel quite logically that the manufactured gas industry does not really comprehend what peak loads are as yet. The situation in Cleveland district is typical, where the maximum day's sendout is in excess of 250,000,000 cu. ft. In Detroit the maximum day's sendout is about 75,000,000 cu. ft. or only 30 per cent of Cleveland's sendout. The total gas sold in Cleveland district in 1925 was about 41,000,000,000 cu. ft. and in Detroit 18,490,000,000 cu. ft. which is 45 per cent of Cleveland's sales. Detroit has very large industrial sales due to the concentration of automobile industry there, but in spite of that the sales per consumer were only 60,000 cu. ft. per year as compared to 100,000 cu. ft. per year in the Cleveland district.

The sales per consumer on the maximum sendout day were approximately 600 cu. ft. in the Cleveland district and 240 cu. ft. in Detroit.

This is clear cut evidence of the effect of the house heating peak, and brings home forcibly to the executives and engineers, the problems that must be taken care of in the future as this business develops.

Los Angeles is another city where the house heating load is tremendous and it is necessary there to keep whole batteries of oil gas sets in readiness to augment the supply of natural gas in taking care of peak loads.

It will be seen that the manufactured gas industry has many of its large problems ahead of it. Undoubtedly there are industries which can utilize gaseous fuel at certain periods of the year and shut down during the time of peak demand. This principle is

already recognized in the natural gas industry and proper rate schedules formulated to meet it.

Natural vs. Artificial Gas Insofar As Rates Apply

As a general proposition the rates for natural gas are lower than for manufactured gas and this fact naturally has been a factor in the development of their business. Higher rates for manufactured gas have necessarily kept it out of some fields of utilization where natural gas is used, but it must be recognized that the supply of manufactured gas is continuous, whereas, in some localities the natural gas supply is not, due to physical limitations and the rate structure reflects this condition. In the natural gas industry, many of the small consumers are exceedingly unprofitable, and efforts are being made to correct this condition.

I have endeavored to cover in a brief way what seemed to me to be the salient outstanding problems facing the gas industry on which the executives and engineers should concentrate their thought. The Economic Survey Committee has organized itself to analyze these problems in careful detail and it is to be hoped that they can set up the situation in a way that will lead the men of the industry to work out economic solutions of their immediate problems and those of the future.

It is quite evident to anyone who has studied carefully the problems of the gas industry, that it is still in the development stage, and that it will make progress and attain results only in proportion to the efforts put forth by the men of the industry. Everyone in the industry must put their shoulder to the wheel and concentrate their thought on constructive plans for the future.

It seems to me that in the last analysis the industry must be founded on economic bases and every effort should be made to get the most out of a dollar invested, and the dollar spent for operation, in order to give the best possible service to the ultimate consumer at the least possible cost.

(This concludes Mr. Beckjord's article.)

Gas Heating Test Proves Economy of Clock Control in Temperature Regulation

A test conducted by one of the nationally known heat insulation manufacturers for a purpose of their own, has developed as a by-product some startling facts of immediate interest to the gas industry.

During this experiment, a house was heated with gas through two heating seasons. Careful records were kept of gas consumption with ordinary thermostat regulation, and also with clock control. The purpose of the tests was to gain information relative to heat insulating problems which makes the results all the more valuable from the standpoint of clock-controlled temperature regulation.

During the first season a gas fired hot water boiler was operated for a full 24-hour day with the thermostat set at 68 to 70. This test showed that 32.41 cubic feet of gas were consumed per degree day. During the second season a clock-type thermostat was set to operate at 68 to 70 degrees through the day and 58 to 60 degrees at night. The gas used per degree day during the second season amounted to 26.38 cubic feet. Clock-type regulation effected a saving of approximately 19 per cent.

Just how does the clock add to the convenience and economy of automatically controlled gas heating?

On the back of the clock-type thermostat is a simple mechanism for shifting the thermostat indicator to a lower temperature level, say at 11 o'clock in the evening, and returning it to the daytime level, say at 6 o'clock in the morning. The adjustment is made at the beginning of the season for any desired combination of hours and temperatures. Thereafter, the only attention required is to wind the clock periodically.

Fuel Economy Only One Selling Point

If the clock-type regulation results in this outstanding economy, that alone justifies its growing popularity in the gas heating field. But the clock also brings other advantages, often deciding factors in closing a sale.

With advanced heating systems playing an important part in the latest trend toward the well-equipped home as a solution of modern housing problems, alert gas companies have seized the opportunity to cultivate the growing market in the house heating field. In this time of prosperity and rising living standards they find that millions of people are not only acquainted with the advantages of the new heating systems but are well able to pay for such an installation in their own homes.

The public is quick to recognize what it means to have a clean quick-heating fuel which requires no storage space and need be paid for only as it is used. But above everything else people look to such a system for relief from the task of tending the fire. They are not satisfied with half-measures—they demand equipment that is completely automatic.

This demand is adequately met by the most advanced type of control—clock-type automatic regulation. The application of the alarm clock principle to thermostat control removed the last obstacle and

made it possible practically to forget the heating system from one end of the season to the other.

Prospects are quickly convinced that a lower temperature during sleeping hours is conducive to health and saves fuel. But they appreciate still more the raising of the temperature in the morning to the daytime normal without the necessity of someone getting up to turn on more gas. Everybody wants comfortable rooms when the family arises, without sacrificing that last comfortable hour of sleep.

These advantages, however, are available only when the gas heating system is automatically controlled by a clock-type thermostat. The clock never sleeps, forgets or goes out visiting—the heat regulator lowers the temperature at night when fuel is usually wasted and maintains a steady temperature during the day, with maximum heating efficiency.

A Longer Heating Season

With manual regulation, there is a common tendency to avoid using the furnace or boiler during the Spring and Fall months. Small kitchen heaters and single room warming equipment are depended upon instead.

With its convenience, comfort and economy, clock-type regulation removes heating difficulties and extends the use of the central heating system over a longer period each season. This increases the total consumption and it means a better annual load factor for this important consuming field.

Factors Other Than Fuel Costs Which Sell Industrial Gas*

Talking points, other than costs, useful in selling industrial gas

J. Paul Leinroth

Public Service Electric and Gas Company.

WHEN we speak of the industrial gas business today we think in different terms than we did before the World War. In the early period of development of this business we were apt to think of glue heaters, soldering furnaces, small oven furnaces and the like when the industrial gas business was mentioned. Today we are thinking more in terms of the bigger wholesale business running into millions of cubic feet per month. With our viewpoint enlarged we are brought face to face with the real economic problems facing the factory manager.

In selling gas for industrial purposes it may be well then that we ask ourselves these questions: "What does the manufacturer really value?" "What are some of the more important items that make for efficiency in the conducting of his business?" and "How can we capitalize on the advantages of gas to really help the manufacturer reach these ideals?" These questions along with many others having to do with factory management are ones which the industrial gas engineer should constantly ask himself and seek answers. He should strive to get the factory executive's viewpoint and the economic aspect of his problem. He must take the "you" attitude. In order to do this he must not only know how to apply gas but must be well grounded in the economics of industry.

Outcome of Scientific Management

The great attention that this subject has been receiving since the advent of the twentieth century has been characteristic of the present industrial era. We have heard much of efficiency since Frederick W. Taylor read his famous paper on "Shop Management" in 1903. Since then we have seen the great development of scientific management in the factory and as a part of scientific management has come the careful study of various industrial processes.

The factory manager of today is interested essentially in production and all of its ramifications. He is particularly interested in being able to speed up his production and guards carefully against shut downs. He knows full well that increased production decreases the overhead per piece and that in the operation of any of the modern production systems involving planning, scheduling and routing, shut downs are fatal. He knows the effect of forced interruptions in labor, particularly if the latter are on some form of rate which makes their daily pay a function of the number of pieces turned out by them. He knows that forced interruptions which deprive labor of the opportunity of making a fair daily wage have a very bad effect on their morale, and make for increased labor turnover. How much premium will he pay for a fuel which makes for increased production? How much does it mean to him to be sure to have a fuel available on the turn of a valve? How much does a furnace shut down really cost him? Do these suggest arguments for selling gas? These matters are important in every plant; they are the very heart of the production problem in some. Continuity of operations is essential to a well run factory; it becomes increasingly important as modern production methods are more and more applied.

* Read at First Annual Meeting of New England Gas Association, February 23 and 24, 1927, Worcester, Mass.

Labor Question and Its Effects

Perhaps no subject has received greater attention at the hands of the factory executive than the labor question. With the advent of labor organization and high wages the human element presents to him a real problem especially where skilled labor is needed. He strives and plans to not be at the mercy of skilled operators and takes kindly to any machine which will do his work with unskilled labor in attendance. Hence the great development and use of automatic machinery in industry which we have witnessed in recent years. Today such matters as cleanliness, sanitation, low fire hazard and improvement in general working conditions play a big part in attracting and holding workmen, and low labor turnover is a goal for which all personnel managers strive. Do not all of these tendencies favor gas as a fuel? Is it not true that gas is particularly adapted to continuous and automatic ovens and furnaces? Does not the fact that all fuels have to be gasified before they will burn give to gas a big advantage from the standpoint of simplicity? Does not gas make for cleanliness and improvement in working conditions? These items of course mean more in some industries than others. For example cleanliness is essential in a bakery and not only has the effect of attracting and holding labor but also is a powerful weapon to use in gaining the good will of the public through advertising.

In planning production process the factory executive is always confronted with the problem of investment. He must be able to make each investment pay dividends. He is therefore interested in low investment cost and can only be persuaded to make a larger investment by being shown clearly that it will pay larger dividends. His plant floor space is an investment and he must get the most out of it. The more production he can get per square foot of floor space the larger will be his dividends. If he uses a fuel that calls for no storage space, that calls for no investment in tanks, special piping, pumps, etc., that may be burned in ovens or furnaces that will not represent a large investment, he knows that these will help him very materially in showing big dividends on his investment. He will be attracted to gas for gas brings with it these things.

Simplicity of Advantage

In selecting equipment he knows full well the advantage of simplicity, both from the standpoint of continuity of production and maintenance costs. He is willing to sacrifice to obtain simplicity for he knows full well how complicated mechanisms fare in the hands of ordinary labor. Certainly the fact that solid fuels must first be gasified before they will burn complicates the fuel problem and gives to gas a distinct advantage.

And now we come to the point where we touch his pride. **The quality of his goods.** This is a point of honor with him. Any manufacturer is interested in knowing how to turn out goods of higher quality. He is being driven to live up to more and more rigid specifications. Higher quality goods bring higher prices and rejects cut deeply into his profits. Surely here is one of his big objectives—the production of the highest quality goods with the fewest number of reiects. And upon what does the attainment of this end depend? Is not control one of the most important words in the modern factory executive's vocabulary? For every heating operation there are certain conditions which make for optimum results. There is a certain best temperature which may follow a certain best temperature gradient, a certain best furnace atmosphere and a certain best speed. Any deviation from these conditions means a deviation from optimum results. Scientific management has as one of its objects the determining of these best conditions. These determinations are, especially in the case of the larger and more progressive manufacturers, often made following work done in the laboratories. Furthermore, there is every indication that our industrial efficiency will call for determination of this character being made more and more in the future. Thus the item of control is becoming more and more important in industry. To obtain this control it follows that a fuel must be used that will be constant in quality, lend itself to the flexibility required by the process and be susceptible to close regulation. And as industry is called upon to live up to more rigid specifications, the fuels which do not lend themselves to this control must give way to those that do. It must also be borne in mind that a fuel not susceptible to good control not only affects the quality of the product but also the maintenance and life of the furnace, which in turn are reflected in both higher labor costs and fixed charges.

Outstanding Advantage of Gas Fuel

If there is one outstanding advantage that gas has over other fuels it is the fact that it may be controlled within narrow limits and this advantage is also largely due to the fact that solid and liquid fuels must first go through a gasification process before they can be made to burn.

One of the cardinal principles of business is to eliminate as far as possible the element of surprise so that production may be kept on an even keel and production costs be predicted as far ahead as possible. This is predicated, as far as the heating process is concerned, upon a constant supply and price of fuel. It is often necessary to make large investments in the way of heating equipment and auxiliary apparatus such as oil pumps, piping, tanks, etc. Will the price of fuel go up or down in the next few years? Is there likely to be an interruption in its supply? In making the investment in heating equipment these points must be carefully considered. While the future supply and price of oil is still a somewhat uncertain question yet there is no doubt that there is considerable concern being felt over our future supply. This is further substantiated by the findings of the Federal Oil Conservation Board. While authorities may differ as to the seriousness of this problem yet there is almost universal agreement to the fact that oil prices are on the upward trend. Indeed we are seeing considerable evidence of this at the present time and this question is also causing very serious consideration by those in our own industry who operate carburetted water gas sets. Manufacturers having used solid fuels for process heating need hardly be reminded of the seriousness of having their fuel supply cut off. The recent almost perennial coal strikes have given them plenty of food for thought in the past. The manufacturer may object to the gas company representative trying to capitalize on permanency of supply

and stability of price. He may argue that if oil goes up in price so must gas as oil is used in the manufacture of gas. The answer to this is that there is a growing tendency in the gas industry to use less oil by the adoption of lower calorific standards and the increasing use of coal gas apparatus. It is of course well known that as far as the supply of solid fuel goes that the utility is a preferred customer.

I have touched upon some of the things that the manufacturer values in his plant; continuity and increased production, the use of labor saving machinery and machinery that will not require highly skilled labor, labor working conditions, low fixed charges, simplicity, quality production, permanency and stability of fuel supply and prices. These considered together make for increased production, better quality of product and lower unit costs—three ideals for which every manufacturer strives.

Manufacturer Is Interested in Profit Accruing From Use of Gas

From the gas company standpoint we are largely interested in how we can capitalize on the advantages of gas as a means to the accomplishment of these ideals. Industrial gas men have heard a great deal of the importance of industrial surveys as a means to getting industrial gas business. It has been pointed out again and again that we have been prone to speak too much in mere generalities and it has been brought to our attention repeatedly that to get the business we must show the manufacturer how he will profit in dollars and cents by using gas. Hence the general indorsement of the idea of making surveys in which a compilation is made of all the various items entering into the cost of carrying on the heating process. Thus these surveys often bring out the fact that while on a fuel basis gas is more costly than the competitive fuel in question yet increased production, decreased labor costs or rejects overbalance this advantage and make it economically advisable for the manufacturer to use gas. In these surveys, however, there are always certain intangibles brought into the picture and although they all have intrinsic value yet it is difficult to assign to them a definite money value. Some of these I have touched upon. It is usually quite difficult for example to assign a definite value to better working conditions, or the introduction of apparatus using gas which will alleviate the labor problem. I have knowledge of a certain manager of a bakery for example who was using coal for baking which necessitated the use of skilled bakers. There was continual trouble between the bakers and the management but due to the fact that his production was absolutely dependent on these men working, he was more or less "under their thumb." For them to walk out would mean that he would virtually have to shut down his plant. A survey was made of this plant which showed that figuring all tangible items, gas and coal costs broke about even. Furthermore the company had a large investment tied up in coal ovens. With a gas traveling oven, however, he would not be dependent on the skilled labor which had proved so troublesome to him. Certainly this meant something to him but really how much in dollars and cents? It was an intangible yet while I have no positive knowledge on the matter, it is my firm conviction that this intangible was what sold the gas installation.

Salesmanship of Utmost Importance

I believe the survey an essential to getting industrial gas business but so often the intangible advantages of gas are really what sell the job. How can we capitalize more on these intangibles? I believe they can be brought home by putting into play the underlying principles of salesmanship by men who have the plant economic aspect of the manager's problem as well as a knowledge of gas application and existing equipment. It is my plea before you today to have men on the firing line who are cognizant of plant economics and the principles of salesmanship. This in my opinion is a crying need. We have many men in our ranks selling gas for industrial purposes well versed in the technical applications of gas but are we not rather short of real salesmen with a broad vision of the industrial gas sales problem? And does it not take this type of man to sell the story of the use of gas in industry? These intangibles usually have a great bearing on his costs and what business man is not interested in the cost of running his business? Does not this then offer to the man versed in these matters a golden opportunity to get "under the skin" of his prospect?

To sell gas in large quantities takes a high class man. He usually deals with high officials to whom he is selling a quality product against strong competition. It takes salesmanship of the highest order and a man with broad vision. If the industrial gas business is to have the glorious future so often painted we must either obtain this type of man at the start or begin with inexperienced men of the right type and background and give their training along these lines most serious thought.

Sturdy Book Cover Given Away by Consolidated Gas Company of New York

Bucking the Line for Gas Sales

Results of segregating gas and electric appliance sales

Willis H. Parker

IN communities where the gas and electric facilities are owned by one public utility company, it is more than likely that the sales of gas appliances and therefore the sale of gas itself will suffer if the company follows the practice of requiring its salesmen to sell appliances for both services. Combined solicitation had been the sales policy of the Public Service Company of Colorado in merchandising of gas and electric appliances in Denver from 1913 to 1922 inclusive when separate solicitation was adopted with the beginning of 1923 and immediately the sale of gas appliances picked up with no injurious effects on the sale of electrical appliances.

The gas sales department was almost completely revamped, and a sales organization which had nothing to sell but gas, gas appliances and coke was formed. As an illustration of the increased business obtained by this method, just glance at the figures for 1922 and 1923.

Increase in Sales

Under combined solicitation the company sold 421 gas ranges in 1922 while by separate solicitation they sold 2,078 ranges in 1923. There were 846 water heaters sold in 1922 and 1,864 in 1923. Only 43 automatic storage water heaters were sold in 1922 compared to 121 in 1923.

The tables of sales made from 1913 to 1925 show a gradual decrease in the sales of gas ranges from a high of 1,860 in 1913 to 421 in 1922. Since then the sales have increased each year with a high of 3,252 in 1925. The same situation held in the sales of water heaters and room heaters—the peak having been in 1913 with combined solicitation and gradually decreasing until separate solicitation was adopted whereupon the number of sales began to climb. The reason is obvious—the salesmen had too many things to sell under combined solicitation. Under separate solicitation the salesmen have nothing but gas appliances and gas to sell; the number of items has been reduced and he can remember them all when discussing the advantages of using gas with a prospect.

It is only natural, according to Mr. Roy G. Munroe, gas new business manager, of the Public Service Company, for a salesman to follow the line of least resistance. Electricity catches the public's fancy for much has been said of the possible future uses of electricity and it is easy to appeal to the imagination of the prospect by dwelling upon some of the advantages of using the "white fuel." In other words the prospect is in a more receptive mood regarding electricity and electrical appliances. One cannot blame a salesman then for discussing the merits of merchandise which the customer wishes to discuss, no matter how impractical the use of such merchandise might be for that individual consumer.

The use of gas has not reached the saturation point, and while gas as a fuel and illuminant dates back further than electricity, nevertheless the field has scarcely been scratched; there is plenty of opportunity for increased sales. The details of this company's gas sales organization and the work it is accomplishing is "proof of the pudding."

In the first place the sales organization is divided into four units, each with a superintendent and corps of salesmen. There is the domestic department which also includes the sales floor staff, 30 representatives are employed; the hotel and restaurant division with four representatives, the industrial fuel division with five sales engineers, and the house heating division with three sales engineers—this department may be classed as a branch of the domestic division for they work with the domestic men and largely upon the request of that division.

Each salesman has a definite and prescribed territory laid out in such a manner that there are approximately 1,700 net customers to each salesman in the domestic division, not including apartment users. This affords the salesman an opportunity to see his customers every few months and demands that salesmen of pleasing personality be employed.

The representatives gather every morning for sales talks, discussions of problems they have encountered, etc. At 9 o'clock the meetings are over and the salesmen hike to their territories. Stress is always placed on merchandise other than gas ranges, for they seem to have a knack of selling anyway and thus far the company has sold more gas ranges than they have meters in the city. Every effort is made to overcome the summer slump in gas consumption and keep the line on the chart at a more even point from month to month. Therefore in the summer time, the stress is placed on automatic summer storage water heaters. In fact automatic equipment is pushed from one end of the year to another. Radiant fires in the spring and fall—also other varieties of room heaters. House heating equipment in the winter. The salesman always has something definite to stress.

If nothing else seems saleable at the home, he may talk coke. In the pocket of each salesman is a "good-luck piece" in the form of a small piece of coke. It is to remind him that the company has coke to sell more than it is for the purpose of displaying to the prospect what the fuel looks like.

Salesmen Must Use Tact

By having a definite territory to work month in and month out, the salesman must conduct himself so that he will have no difficulties upon returning to the same house to talk with the house holder. Forced entrance, as it were, by placing the foot between the door and the door jamb may work once but not twice in the same place. Therefore, basing his approach on the idea of performing a service, the salesman has an opportunity to get into the house

and note what gas appliances are missing. Upon noting this he has a definite line to follow on suggesting additional equipment for the home. Adjusting the burner on the gas stove so that it will function better and without a waste of gas; inspecting the water heater—such little services give the salesman an opening and a welcome one as well.

Next comes a sizing up of the customer. There's not much use talking certain classes of gas appliances if the prospect does not own the house in which he is residing. The health of the woman of the house is noted. If she is apparently not strong, then the stoking of a coal burning furnace is no easy task for her. That family is a prospect for a gas burning furnace and the salesman's talk may be along this line. On the other hand, if the woman is strong and robust, she may not mind running up and down the basement stairs to shovel more fuel into the furnace. Perhaps there is a fire place in the home and a radiant heater would be excellent for the chilly fall and spring days as well as adding a cheerful note to the room in the winter evenings. In other words the salesman should seek by interviewing to determine what the customer actually needs in the way of appliances and not scatter his efforts over the full line of merchandise he has for sale.

In case of house heating, the salesman generally calls upon one of the house heating representatives to assist him in completing the deal, for this salesman is a heating engineer and is better qualified to discuss installation and costs with the prospect. The salesmen share the commission on such transactions.

Tips From Floor Salesmen

Many tips are received by the domestic department from the salesmen on the floor—obtained from people who come in to pay their bills. Perhaps the woman declares that she would like such and such an appliance but she would have to talk it over with her busband. Such a tip is given to the salesman on that territory and if he consummates the sale, full commissions are paid both representatives.

In the "convention hall" of the domestic sales division the room in which all of the representatives gather each morning for their "daily dozen" is a large map of the city of Denver with each of the 30 salesmen's territories outlined. As a means of spurring the boys on to greater efforts colored pins are stuck into the map to show where important sales have been made during the month. Pins with blue heads indicate sales of house heating equipment; yellow indicates automatic water heaters; red shows radiant fires sales. Sales of ranges are not indicated for the reason previously explained.

A rather neat contrivance enables Mr. C. A. Bigler, sales superintendent of this department to show the standing of each one of the 30 salesmen each day without a lot of erasing of names and figures. Each representative's name is printed on a narrow strip of metal. Holes in each end and pegs corresponding permit the strips to be moved up or down on the blackboard to show the relative standings.

Commission Paid for Increased Consumption

Besides the commissions paid the salesmen for sales of gas appliances the company pays a commission on the increased consumption of gas on the various territories. A fixed percentage is paid on increased sales of gas for house heating and a still larger percentage on the increase gas sales for the usual domestic purposes. The increase is based upon the increased gas gross revenue of one month over the same month the previous year.

The representatives are also paid commissions for meter orders upon "dead service" (gas service pipes which have sold no gas for six months or more), for new service orders, for meter sets, and a fixed rate per hundred cubic feet for hourly demand signed upon three part rate contracts.

Each division superintendent is held responsible for the expenses and results of his division, and is required to budget forecasts of merchandise sales, new business expense, and gross gas revenue. The cost per dollar of increased gross gas revenue is most carefully watched.

The effectiveness of the organization may be judged from the fact that it is a rare month that each division superintendent does not report increased gas sales of at least several million cubic feet over those of the same month of the previous year.

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SHOULD THE SALES MANAGER BE AN ENGINEER?

A certain man who was a success in the merchandising end of the gas business once said: "I don't care how they make gas, so long as I know the manufacturer is making good appliances to burn it." This was said when some one suggested that all gas appliance salesmen should have an engineering training. We think what he meant was that if the gas appliance salesman will give all of his thought to what the appliance will do for the customer and then go out and tell the customer what it will do for him that he will make sales. After all, what does the average home manager care about an appliance so long as it will do something for her, give her better cooked foods, free her from washday worries, bake crisp waffles, make her kitchen her pride, or a hundred and one other things. That's the big idea—tell 'em what it will do for 'em and you will sell your quota.

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HOME SERVICE ACTIVITY IN THE NATURAL GAS FIELD

Problems confronting the natural gas industry of Ohio were discussed at the annual convention of the Ohio State and Oil Men's Association held at Columbus, Ohio, March 1 and 2 at the Elks Club. One of the outstanding papers presented was recital of a home service survey, made by the Union Gas and Electric Company in the Cincinnati areas, where expert employees of the company visited every home.

As The Journal Views It

QUO VADIS?

The history of the progress and development of the selling of appliances for the utilization of gas has followed a course which is quite similar to that for many other commodities. Many of us delude ourselves in claiming that our merchandising of appliances is unique and different, and hence any selling rules or procedure that hold good for other articles bought by the general public are somewhat of misfits in our particular industry. The longer we harp on this idea the longer will it be before the merchandising end of our business hits its proper stride.

As a matter of fact our merchandising problems are becoming involved, to say the least, and much careful study is being given to their satisfactory solution. In a broad sense three lines of procedure are available. First, we can continue as heretofore to sell appliances for a fair and legitimate profit. Next we might, as is continually contended by many of our commercial men, market them at approximately cost, merely to get gas consumption, and lastly co-operation with the appliance stores, plumbers and department stores has been proposed.

Speaking for the industry as a whole, the first method is the one that predominates. That is, it is the one that has been adhered to since appliances started to be sold. If it is the correct one then we have no problems to solve. For the small company it is probably the best that is available but for the larger ones it is evident that it must undergo some vital changes.

Pending some additional enlightenment we hold that the second plan proposed whereby we sell our appliances with virtually no profit is an enormous nonsense and one provocative of no end of trouble and, perhaps, ridicule. Of course we are in business primarily to sell more gas; most all of us are familiar with this basic fact. So is Mr. Rockefeller desirous of increasing his output of gasoline but closest scrutiny has failed to reveal that he is marketing automobiles at cost in order to hasten any such increase. Further, no sane stationer is furnishing bottles of ink gratis in order to score heavy on the sales of fountain pens.

There would seem to be something to the proposal of co-operating closely with the other outlets for gas appliances, namely department stores, the plumber and the straight appliance store. This could very properly include an agreement between the gas company and the other outlets for appliances whereby prices would be established and adhered to. More, the others could be shown the advantage of handling only approved equipment and the recalcitrant ones, literally speaking, clubbed into line. A scheme embodying the inspection by gas company men for a nominal cost could be of assistance where the plumber, etc., had made an installation.

The working out of such a plan as the third one needs some serious study. However it should prove exceedingly interesting and withal should be instrumental in rightly crowding shoddy and unsafe appliances off the market. At any rate our merchandising methods can well stand some change for the betterment and the time would seem eminently opportune for studying the same.

OUT OF THE WILDERNESS

Even our most dry-as-dust and academic histories make more than passing mention of the relation of the food question to our national progress. Witness the chronicle of "starvation time" in colonial Virginia or, better still, the account of how the Pilgrim Fathers, on the first Thanksgiving Day, despite the imminent danger of leaving sundry of their scalps dangling at some Redskin's belt, trekked into the wilderness for wild turkey meat. In line with Napoleon's contention that an army fights on its stomach it is highly likely that our frontiers were pushed westward on a hog and hominy ration.

As a consequence of such subsequent culinary activities we have amassed an astounding amount of cooking lore. We as a nation procure as good raw foodstuffs and prepare them for the table as savory and digestible, if not more so, as any other country on the globe. And you are welcome to include the best that Paris can muster, to mention

nothing of the country of Greece, in such a comparison.

Our digestive systems have been functioning rather well thanks to the way our food has been selected and prepared, that is, up to some twelve or fifteen years ago. At or about this time our changing living conditions caused many of us to seek our meals away from the family hearth. Then came the altogether insidious increase in the number of restaurants and eating places. Came as well divers stomach ailments and a whole retinue of attendant ills.

But good fortune is in the offing. Better gustatory delights are just around the corner for those who will but pause and give heed to what gas companies' home service departments are endeavoring to do for us. The trend is back to the family board and home service is a mighty and potent factor in this very desirable movement. Out of a welter of fearfully concocted dishes, mostly foreign in their nature, home service will surely lead us into the Promised Land.

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THE SUMMER REFRIGERATING LOAD

(Continued from page 283)

control. That system is to be found in the ordinary ice box, cooled with a refrigerating machine.

Ice Box Is "Inverted" Warm Air Heating Plant

It may not be apparent at first sight that there is in the ice box an inverted warm air heating plant. In the warm air heating plant, not only is the air heated but the moisture needed to maintain the desired humidity is supplied to it. The warm air then flows by gravity to the space to be warmed and when this air cools it flows back through another path provided to the furnace.

In the ice box we have the same system completely inverted. Instead of a fire we have a source of cold. Instead of having this below what is to be cooled it is above. The air is cooled, flows down by gravity and as it warms rises to be cooled again. But this is not all that the refrigerating machine does and because it is not all is the reason why a machine has such a great advantage over ice.

As the air circulates around the cooling coils or surfaces, all excess moisture is frozen out. The humidity is held down to the desired point. The air in the box is so dry that matches left in it for days may be lighted. It is the humidity control of the refrigerating machines that counts for more than any of its other good features, just as the greatest talking point of the warm air furnace is the facility it gives for controlling humidity.

The refrigerating machine in an ice box is simply an inverted, one pipe warm air furnace cooling a single room. It is true the room is tiny but this does not change the facts. That it works so perfectly when applied to such a small room would indicate that it would work still better when applied to a large one.

Value of Air Compressor

One of the very first refrigerating systems applied on ship board for preventing perishable food products from spoiling was an air compressor. The air was compressed and cooled, the water in the water jacket of the compression cylinder serving to do the cooling. It was then led to the rooms to be cooled and allowed to escape into these rooms through an expansion valve. The warmed air was brought back or allowed to escape and the room kept supplied with the air needed to keep it down to the desired temperature.

The system worked but the apparatus required was large and something more compact and efficient was sought. The refrigerating results, however, were very satisfactory. The air in the rooms was dry, in fact very dry, and the desired temperature could be maintained.

If we consider a house as a large family ice box with many compartments, and a warm air heating system as merely an inverted refrigerating system, then if we turn the hot air system upside down and use a refrigerating machine rather than a fire pot we have solved the air cooling of a home. The heating plant remains intact and can be brought into service at any time. The cooling system will work effectively and efficiently.

Approximate Calculations

Gas men know now how many B.t.u.'s are required to maintain an inside temperature of 70 when the outside is zero. To find the B.t.u.'s that must be taken out for cooling is merely a matter of doing some reversing in the heating formula. In place of zero outdoor temperature we use 100 leaving the inside still 70. Then it is a task of finding a refrigerating machine of a capacity great enough to remove the required number of B.t.u.'s; placing the machine in the attic with the expansion coils or brine tank surrounded by a metal air space and leading air pipes to the top of the inside walls of the room with return pipes leading back from the tops of the outside walls.

The refrigerating coils or tank will not only cool the air but freeze out excessive moisture. Since the ultimate temperature is not to be merely eight degrees above freezing, as in a food box, but 38 degrees above this point it is not necessary, with proper design, to permit excess frost to form on the cooling surfaces. It is permissible to allow a sufficient flow of air to keep the coils dripping water into a receptacle that drains it away to the sewer. This taking out of the water must be fast enough, however, to hold the humidity down to a point such that the air in the rooms will be dry.

Demand for Such System Not Far Remote

Some such system as this is bound to be demanded in the near future by those who already have adopted

(Continued on page 20)

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 161

Oil Gas

The method of making oil gas by the single shell generator method has been discussed and we are now ready to consider the method in which the improved or double generator is employed. It is recognized that the primary of first of the two shells is really a single shell generator of the heat and make down type. The usual duration of the gas-making process is twenty minutes and this is divided into four distinct stages.

The first stage is a one minute preliminary blowing of the primary shell with a blast of air. The blast valve is closed during this operation. The cycle thus begins at the end of a gas making period, and this also means that the wash box valve is closed. The primary air blast is introduced at the top of the generator. This primary blast of air has the effect of burning out the carbon deposits in the generator and also increases the temperature of the checkerbrick.

Second Stage

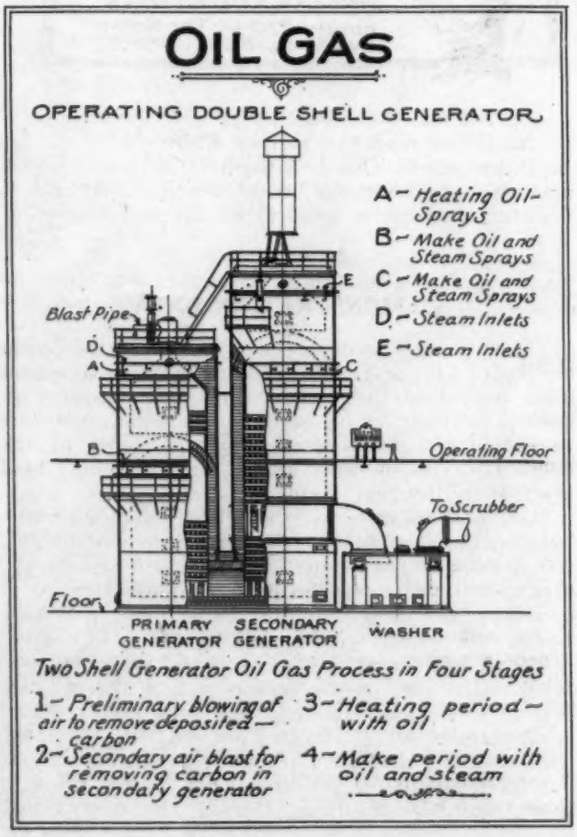
The first stage is immediately followed by the second stage which is a one minute blowing with the secondary air blast. This air is introduced at the bottom of the secondary generator and results in the burning out of the carbon deposited on the checkerbrick in the secondary generator. The blue gas and the steam is blown out and the generator is heated up. The primary air blast passes into the secondary generator and mixes with the secondary air and both then pass up through the latter and out through the stack.

The third stage consists in an eight minute heating period. The oil is sprayed into the upper part of the primary generator at A. The burning oil passes through the generator and the products of combustion passes up the secondary generator and heats the checkerbrick in it. The consumption of oil is usually at the rate of four to six gallons per minute, and this is continued until the checkerbrick attains a temperature of 1600 degrees F.

Fourth Stage

The fourth stage is the gas-making stage and this lasts for ten minutes. The stack valve is, of course, closed as well as the blast valve. The wash box valve is open. The first operation in this period is the introduction of steam at the top of the primary generator at D for the purpose of reducing the temperature of the checkerbrick which is accomplished through the consumption of heat in splitting the steam up into carbon monoxide and hydrogen gases. Oil and steam are then sprayed in together at B and at C.

Steam is also allowed to enter the primary and the secondary generators at D and E. This steam is decomposed, as mentioned before, to form blue gas which passes down the generators, and it therefore meets the current of steam and oil at B and C which are blown into both generators. The steam has the effect of removing the carbon which is continually being deposited on the checkerwork due to the decomposition of the oil hydrocarbons. The mixture of oil and water gas then passes into the bottom of the secondary generator and is there mixed with other similar gases formed in this secondary shell. After the oil gas making period proper has passed, the oil valve is shut and the steam valve allowed to remain open for two minutes in order to purge the apparatus.


OIL GAS
OPERATING DOUBLE SHELL GENERATOR
A – Heating Oil-Sprays
B – Make Oil and Steam Sprays
C – Make Oil and Steam Sprays
D – Steam Inlets
E – Steam Inlets
Blast Pipe
Operating Floor
To Scrubber
Floor
PRIMARY GENERATOR
SECONDARY GENERATOR
WASHER
Two Shell Generator Oil Gas Process in Four Stages
1 – Preliminary blowing of air to remove deposited carbon
2 – Secondary air blast for removing carbon in secondary generator
3 – Heating period – with oil
4 – Make period with oil and steam

LET THEM MAKE NOTES

One demonstrator that we have heard of never conducts a demonstration until she is sure each and every home manager in the room has been provided with pencil and paper. Her idea is that even though they are furnished with copies of the recipes being demonstrated that they all wish to make notes of their own and that in doing this, getting things down in black and white, they are more likely to try out these and other recipes at home after the demonstration.

A great many demonstrators now have those in the audience read the recipes while the foods are being prepared. This is a mighty fine way to keep attention on the thing being demonstrated and to maintain interest in general on the demonstration.

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DEMONSTRATION DATA

The home service department of the Illinois Power and Light Corporation have adopted a plan to secure data regarding the types of demonstrations conducted by their home service department workers regarding the foods served and the cost of the demonstrations, number served, etc., that may beof interest to "Journal" readers.

Data pertaining to each and every demonstration held by the department is tabulated on a sheet like the one illustrated below. This data is filed with the idea that if a request is made for a demonstration at any time, the director of the department will have a plan at hand that will not only tell her what number of people a given amount of food will serve, but will tell her the cost of the demonstration and indicate just how such a demonstration was received and what results were attained or may be expected. This company has only recently organized a home service department, yet they have started off in a most aggresive manner. During the past month demonstrations have been held on discount day in the company's display rooms at Madison, Granite City and East St. Louis, and several demonstrations have been held before women's organizations and plans have been perfected whereby demonstrations will be held in connection with the various Parent Teachers Associations in the southern division during March. George Steinwedell, division manager is an ardent advocate of teaching the young the value of home cooked foods and the value of labor saving appliances. We suspect that while he is doing everything possible to promote house heating and the use of gas in the great east side industrial area he never for an instant loses sight of the fact that the domestic load must carry on.

✿ ✿ ✿ ✿

CLUBS THAT COOK

Holding demonstration before women's clubs, parent teacher organizations, etc., always wins friends for the home service department. These demonstrations need not be elaborate affairs. Any gas company can afford to serve cake and coffee to these organizations once each month and while no direct sales may be traced to them, many will surely result.

✿ ✿ ✿ ✿

SWEDISH TRIBUNE

Frequently we had been asked if Home Service does any work in a foreign language for the new comers to this country. We always point with pride to our one linguist, Nellie Fredeen, at the Roseland service. Every week Miss Fredeen contributes Home Service recipes in Swedish to the Swedish Tribune. Her column has had many favorable comments, and the letters she receives from the readers of the recipes express interest and gratitude.—Peoples Gas Light and Coke Company, Chicago, Ill

"Have You Met Home Service?"

Why a gas company needs home service

Ella M. Lehr

Home Service Director, Pacific Gas and Electric Co.

MR. Gas Man—I should like to introduce to you—Miss Home Service—the missionary of the gas works! As yet—she is not so well known here on our Western Coast. Perhaps she's considered too young to be given anything but a baby chair and a doll; perhaps her reputation did not carry West, for everybody knows and loves her in her Eastern home. Yet it may be, we misunderstood her name and introduced her as a Demonstrator instead.

Miss Home Service does not tap on the window at you and balance anemic looking hot cakes on a weak-backed spatula. She does not dash frantically around with a skillet in one hand and her order book in the other. Nor does she climb upon a soap box and hurl forth silver-tongued declarations on the efficacy of Gas. She could—but—she does not have to!

Instead, Miss Home Service acts as the middleman—if you please—the connecting link between the Gas Company and Mrs. General Public. She takes complaints and misunderstandings and turns them into loyalty and cooperation. She takes your product—"Gas, the fuel of a thousand uses"—and shows it as a means of giving vast happiness instead of household drudgery. She takes your appliances, and in woman language—sells Beauty—better complexions, softer skins, joy, health, more time off, more freedom for the better things of life—besides making the world safe for home cooking!

"To Create More Business and a Satisfied Consumer"

She interprets her job as a cross between public relations and indirect selling, using as her working motto "*To create more business and a satisfied consumer.*"

"But" you say—"That in short is our aim."

Right you are. Yet—how many babys clothes are sold on the strength of this man-written advertisement—"We have a handsome line of infant's apparel!" How many silk stockings or how much pink lingerie would be sold if makers based their appeal on the number of fibres in the thread or the etymological exposition of the machinery in a silk worm? Who comes in to pay the gas bill? Who complains when the gas water heater springs a leak or the service man tracks mud on the linoleum?

Nearly 95 per cent. of the household expenditures are planned in the kitchen—the clearing house for family bills. It is said, too, that 85 per cent. of a man's purchases are made because some woman says yes; and about the only thing he doesn't buy without consulting a woman in cigarettes!

It's the old tale of the Colonel's lady and Judy O'Grady—and a burned cake is just as effective in bringing them together as the cradle of a suffering baby.

Now, Mr. Gas Man, may I ask you two questions?

1. Where do you stand in the battle of the fuels?
2. Just what do your public relations mean to you?

Electricity and Oil Our Competitors

Today electricity, the mysterious, the oil, the vast, have placed themselves against your product in a mighty struggle for dominance in supplying heat for domestic, industrial and commercial purposes. Yet it is a battle of appliances rather than of fuels. Gas has been handicapped in the past by the lack of up-to-date appliances, but recent improvements and new inventions bid fair to give the gas industry advantages worth capitalizing on.

The biggest potential market for gas lies in the field of domestic appliances. Although domestic use accounts for 54 per cent. of the consumption of manufactured gas in comparison with 21 per cent. for illumination, 21.67 per cent. for industrial use, and 3.3 per cent. unclassified, yet the growth of domestic loads has not kept pace with the population or the wealth, as the following figures show:

Annual increase in total wealth	7.2%
Annual increase in total meters	2.9%
Annual increase in per capita wealth ..	4.9%
Annual increase in per capita number of gas meters	2%

Moreover,—the sale of electric and oil ranges is increasing faster than the sale of gas ranges—which means that the main selling effort must be put on gas for cooking.

Yet in these days of ready-cooked foods, restaurants with their lure of music, fellowship, good food and obsequious service from pussyfoot waiters, delicatessens on every other corner, and beauty parlors across the street, all calling "Come out of the kitchen," is it any wonder that the 1907 model gas range rusts away in its dingy corner?

Home Offers Best Chance

The home is your best chance, for despite jazz, cocktails and careers, American women are not deserting their homes. Love of cooking and homemaking will never die. That is woman—instinct. What she wants is the same sort of efficiency in her home that her husband has in his office or on his farm. Mr. Business Man relegates his 1916 model typewriter to the junk heap, yet type of range is plenty good enough in his kitchen.

Each year more and more women enter into industry. Clubs, politics and other activities lead them out of the kitchen. They have less time for cooking, hence restaurants and tearooms are growing three times as fast as the normal demands of the population.

Your problem is to check the drift away from domestic cooking and to increase the use of gas in the home, solved by making women appreciate the remarkable up-to-dateness of gas, and replacing their antiquated equipment with the newest in gas appliances—not only that nice bit of modern life's embroidery—the temperature-controlled range—but clothes driers, ironers, mechanical refrigeration, water heaters, automatically-controlled furnaces—for "if it's done with heat, you can do it better with gas"—you know!

Enter Home Service!

Enter Home Service! She believes in women's activities to the Nth degree, yet she has utmost faith in the home. So she meets with carefully dressed and coiffed club women—preaching the gospel of better and easier cookery. She urges them to leave their home showing them in a subtle and elusive manner how, by means of absent treatment made possible by the oven control, they are able to serve the family hot, appetizing meals right from the oven—and still maintain their outside interests. Incidentally, Mr. Gas Man, using your fuel all afternoon.

She stages cooking schools, classes and demonstration lectures before housewives, business girls, boy and girl scouts, even business men—purely educational—commercialized in no sense of the word—and because she produces luscious lemon pies and golden sponge cakes of marvelous texture with an ease and a joy seldom seen in the kitchen, she sells for you more gas appliances than can be accomplished in days of door-to-door canvassing. She gives recipes in time and temperature, thereby showing the need for ranges with oven controls. She demonstrates that hot water for laundry and sanitation is a necessity for home comfort and happiness, that evenly heated rooms are most essential for Baby John's health. Ah—a new recipe—for "Congo Pie"—and Mrs. Housewife dashes happily home to try out the new dessert!

Objectives of Home Service

Two of the three major objectives of Home Service are accomplished right there—these being:

1. To sell more gas.
2. To sell gas appliances.

But perhaps your company is not particularly desirous of increasing its load—perhaps you have not gone in for merchandising. In that event Home Service plays her leading role—that of building up good-will.

A gas company has no class of customers—no selected clientele. It has one customer—the community. The friendship and good-will of that customer is its biggest asset.

When you find a woman calling up the gas company (which she has been known to class as "a bunch of pirates") for help in deciding what set of dishes she should buy, or writing in for menus planned to aid in removing excess anatomical upholstery, you have gained a contact which is of inestimable benefit to the company. The woman who despairs of ever making a decent cake and is shown how to through Home Service is a friend for life.

Women need and appreciate a reliable source of home-making information and where would it be more logical for her to obtain help in planning her kitchen than from the gas company which supplies the 100 per cent. fuel for her most used kitchen appliance—the range. Yet, in most cases, she is having to resort to magazines and shopping guides for advice applying indirectly to the commodity which is the life-blood of our jobs—from president to meter reader!

Minor Features of Importance

There are in addition to these three major objectives—selling gas and gas appliances and building up customer relationships—several minor accomplishments—among them—increased publicity and educational features.

Illustrated recipe cards sent with the gas bill, columns of timely hints and housekeeping hunches in the newspapers, cook books, lecture demonstrations before clubs, schools and other groups and the wonderful opportunity in radioland of broadcasting to an unseen audience of housewives—here is a contact no masculine mind could make—a better form of advertising than that for which many a bottle of printer's ink is wasted.

A Home Service Department should operate independently, since it is a unit in itself, functioning both in improving public relations and in increasing sales and domestic appliance loads. "Since Home Service extends its influence into practically every department of the gas company from selling to servicing, it necessarily follows that the control and supervision of this activity should be placed as high up in the organization as possible, in order that it may contact with and function to assist as many collateral departments as are affected, and also, so that it may fit into the basic policies controlled by the major executives of the company." The more "bosses" there are the more handicapped will be the director's initiative and scope.

Essential Qualifications

The personnel of such an organization depends upon the growth as well as upon the size of the company. There should be a director and assistants both in the field and for clerical work. There are five essential qualifications for a successful Home Service Director:*

First—Home economics training.
Second—Personality.
Third—Energy.
Fourth—Personal neatness.
Fifth—(and above all else) Vision!

Within the department all records of Home Service activities should be kept. It should operate upon a budget, handling all things strictly pertinent to Home Service activities, and leaning upon no one department for support.

Well-planned Home Service benefits so many departments of activity that the allocation of the costs of this department can best be decided by the individual gas company, according to the scope of the Home Service rendered.

Similarly the cost of operation is based upon the activity permitted Home Service. There is no tangible measure of results—just as in advertising and window displays. Good-will can not be measured in terms of dollars and cents. Checking the load curves on special days—such as Thanksgiving and Christmas or after radio announcements, installation of temperature-con-

* From Report by American Gas Association.

trolled ranges and the like give some measure of its value in load building. The effect of Home Service on appliance sales is harder to trace except individual cases.

Existence Justified

The fact that over ninety gas companies have adopted Home Service is some evidence of the justification of its existence. According to a report just issued by the American Gas Association—seven and one-half million women received instruction in the art of cooking from the Home Service Departments of gas companies during the year ending November 1st. This was done through cooking schools, telephone interviews, home calls and cooking lectures over the radio. Now—does Home Service pay?

Home Service fails only when it isn't given a chance, when your executives are not back of it, when you expect it to give something for nothing. If you can break away from the Altar of Custom with its offerings of man-made plans for cooking demonstrations, advertisements based on endurance and strength of an oven door, and give your selling and service a cold cream slant—you can not help being sold on Home Service.

The gas industry needs Home Service—and woman! She can help you more than you realize. There is but one view! Do you remember the story of the little boy looking at a circus poster of an elephant spinning around on the tip of its tail on an inverted water bucket?

A doubting companion asks the child "Do you believe an elephant can do that?" Sure," the little believer answered, "I don't think there ain't nothin' that an elephunt can't do."

Home Service Copy
Good art work
FREE
Cooking Demonstration
CLARK JEWEL Gas
You are cordially invited to attend the series of free cooking lessons to be given in our store this week. Bring a friend with you.
CLARK JEWEL Gas Range
something new
about cookery
LORAIN REGULATOR
Invites Attention

HOME SERVICE MEETS AT WORCESTER

The first annual convention of the New England Gas Association, hold at Hotel Bancroft, Worcester, was also marked by the home service departments of the various New England companies meeting for a luncheon and afternoon session.

After securing the advice and approval of President Freeman of Providence, the home service department of Worcester Gas Light Company, taking upon itself the duty of acting as hostess, invited the directors of the fourteen different home service departments throughout New England to come to Worcester, Wednesday, February 23rd.

The program as carried out and which was attended by directors from five home service departments, consisted of a luncheon at 12:30 served at Hotel Bancroft, convention headquarters. The luncheon was informal and was presided over by Mrs. Lyda Flanders, director of the Worcester Gas Light Company's home service department. The women who attended the luncheon and participated in the round table discussion afterwards were:

Miss Kathleen Atkinson, Providence Gas Light Co., Providence; Miss Chisholm, Malden and Melrose Gas & Elec. Co., Malden; Mrs. Martin, Blackstone Valley Gas & Elec. Co., Pawtucket; Miss Daurice Darling, Boston Consolidated Gas Co., Boston, with Mrs. Carolyn Bixby of the Glenwood Stove Company as guest.

Color in the Modern Kitchen

The speaker of the afternoon was Mrs. O. Victor Humman, an authority on color and all phases of home decoration who gave an interesting talk on "Color in the Modern Kitchen." Her talk was illustrated with cretonnes, candles and colorful potteries, and was much enjoyed by the women present. Mrs. Humman made a plea for women to bring color into the many kitchens that in their zeal to be sanitary are losing their attractiveness, the kitchen she called a "Surgical Kitchen." The round table discussion concentrated on working out time and temperatures for insulated ovens.

The luncheon was honored for a short while by the presence of President Freeman, head of the New England Gas Association and Manager Edward H. Bauer, of the Worcester Gas Light Company who made brief but interesting talks on subjects allied with home service work.

The evening was a continuation of the day time program as the home service directors were invited to stop over and attend the convention dinner dance held in the Bancroft ballroom.

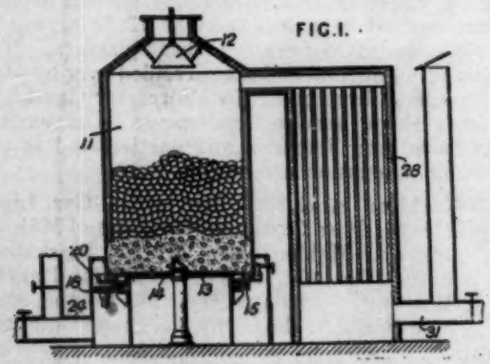
As a result of this first step it is hoped by the home service directors that the annual convention of the New England Gas Association will hereafter plan a place in their program for the home service women. to correct this condition.

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

GAS PRODUCER

IN a gas producer 11, which has a charging bell 12, a fixed grate 13 and a rotating bar 14 and ash tray 20, secured to a ring 15 driven by a pinion 18, the air and steam, or unwashed blast furnace or other gases are introduced through a pipe 24 and pass upward through the ash and clinker, the fire zone, and a raw fuel bed and then through a regenerator 28 to a holder

FIG. I.



260,628

through a pipe 31. Incoming gas may subsequently be introduced through this pipe and after absorbing heat in the regenerator, pass downward through the fuel. A regenerator may be associated with the pipe 24 or both may be dispensed with and the sole regenerator means consist of the ash and clinker and the fuel bed. The clinker may be redelivered to the blast furnace. British Patent No. 260,628.

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COMPOSITION OF COKE OVEN GAS AND COMBUSTION

THE composition of coke oven gas depends on the pressure which is maintained in the oven, the external wind pressure and direction, the coal used, the coking temperature and other factors, and is therefore subject to considerable variation. Analyses, calorific values, densities, volumes of products of combustion, volumes of air required for combustion, theoretical flame temperatures, etc., are tabulated for twenty samples of gas which were taken from a coke oven plant at different times during the course of six months' operation.

No simple relation exists between the calorific values and the densities of the gases. The volume of air required for combustion and the total volume of combustion products are approximately linear functions of the gross calorific value. The carbon dioxide content of the flue gases bears no relation to the calorific value and gives no accurate measure of the excess air. The influence of the amount of excess air on the flame temperature and the heat losses, and the variation of these when a burner is supplied with gas of varying pressure and composition are discussed.

For economical combustion good pressure regulation is necessary.

For the gases tabulated the maximum variation due to these causes is not greater than that due to a pressure differential of twenty-five millimeters of water. Similar calculations have been made for two series of gases of varying composition, but of constant calorific value and constant density respectively. Comparison of these shows the latter to have the advantage, gases of the same calorific value being capable of greater variation in their behavior on combustion than gases of the same density. In evaluating a gas the density and carbon dioxide content, as well as the calorific value must be taken into consideration. Das Gas und Wasserfach, 1926, volume 69, pages 1135 to 1141.

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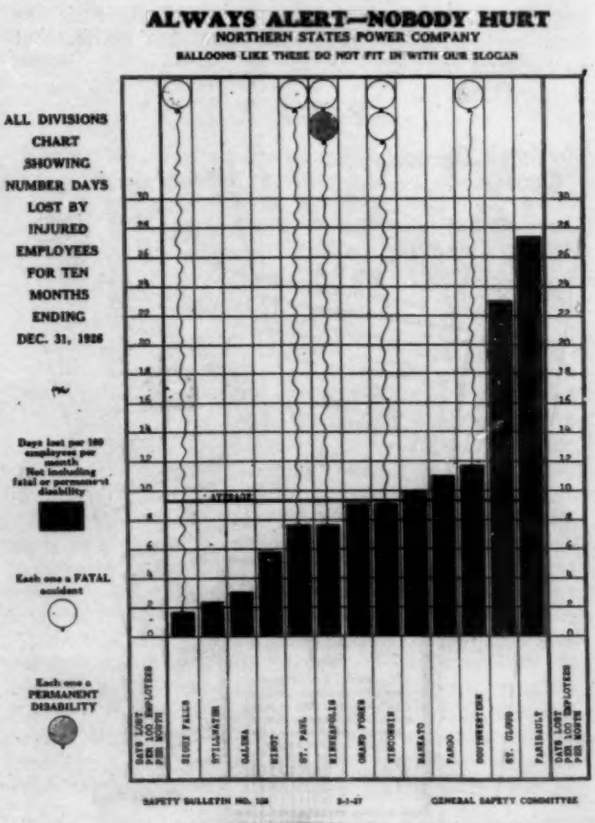
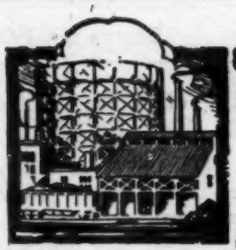
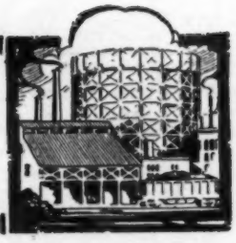




NEWS OF THE GAS INDUSTRY



Adjournment of Congress Creates Dilemma

Washington, D. C.—Failure of Congress to pass the second deficiency appropriation bill has confronted the newly-appointed Public Utilities Commissioners with the alternative of becoming unsalaried public servants for four months or tendering their resignations to President Coolidge.

Which of these two steps the commissioners and the Peoples Counsel will take probably will be decided when they will meet by invitation of Engineer Commissioner J. Franklin Bell, to consider the dilemma created by the inactivity of Congress.

If they agree to serve until next July 1 without compensation they must further face the frugality of being devoid of secretaries, typists and office furniture.

The second deficiency bill had embodied provisions for sufficient funds to care for this phase of the new utilities body. Not one cent will be forthcoming until July 1, when the general district appropriations will become effective.

Originally it had been planned to organize the commission, but when it was learned that the latest appointee, Col. Harrison Brand and Peoples Counsel Ralph B. Fleharty were out of the city it was deferred until the following day.

When adjournment came on Capitol Hill, however, and with it the bleak information that no funds would be available, Commissioner Bell, who is a member of the commission, called a conference for Monday, with the understanding that those who desired to serve the district for a quarter of a year without pay or assistance would be given an opportunity to record their choice.

The three members of the commission are Commissioner Bell, Col. Brand and John W. Childress, with Mr. Fleharty as peoples' counsel.

The selection of Col. Brand was made last Thursday by President Coolidge after Benjamin F. Adams had asked that his appointment be withdrawn.

Samuel Insull, Jr., Gives Talk on Relations Between Officers and Employees

Indianapolis.—Samuel Insull, Jr., of Chicago, head of the Midland Utilities Company, was the principal speaker recently at the second annual joint conference of the Employees' Representative Council officers of the Northern Indiana Public Service Corporation, the meeting being held at Fort Wayne, Ind. Mr. Insull spoke on the general development of public utilities in Indiana. He emphasized the need of mutual understanding between the officers and management of the company with the employees.

J. E. Nichols, director of industrial relations at Hammond, Ind., was chairman of the meeting and presided at the banquet. More than 175 representatives from the northern and southern divisions of the Northern Indiana Public Service Corporation, attended the conference. Fort Wayne is the main office of the southern division, under the direction of Samuel E. Mulholland. Upon the completion of the banquet and speeches, the guests were taken on an inspection tour through the gas plant at Fort Wayne.

* * *

Indiana Passes Bill of Vital Interest to Rate Cases

Indianapolis.—By a vote of 87 to 2, the Indiana house of representatives has passed the Harlan senate bill requiring the Indiana public service commission to inquire into attorney's fees or promotion charges included by utilities in rate cases and into the management of any public utility. Owing to the fact that the house made no changes in the bill, it now goes to the governor for his action.

Gas Company Makes Final Payment

The Public Service Company of Colorado, March 1, handed to Mayor Stapleton of Denver, a check for $76,286, the final payment under the old franchise, the amount being money in excess of seventy-five cents per 1,000 cubic feet, the old franchise stiplating that should the company collect more than seventy-five cents per 1,000 subic feet, the excess must be returned to the city.

Why the company was ever allowed to charge in excess of its franchise is not plain and regardless of it remitting the excess to the city, the whole thing placed an uncalled for tax on all gas consumers. This is ancient history now the company operating under a new twenty year frachise, with reduced rates.

* * *

Stacey Mfg. Co. Receives Holder Contracts

Evansville, Ind.—The Southern Indiana Gas and Electric Company, Evansville, Ind., have placed contract with The Stacey Manufacturing Company, of Cincinnati, O., for the installation of a 529,000 cubic feet capacity two lift holder in their existing masonry pit 122 feet diameter. Contract includes the furnishing of an entirely new guide frame, as well as the new holder lifts.

Flint, Mich.—The Stacey Manufacturing Company has been awarded contract for the dismantling and re-erection of a 300,000 cubic foot capacity 2-lift holder at the new coke oven plant of the Consumers Power Company, Flint, Mich. Work of dismantling holder will be started immediately.

* * *

Movie Star Formerly Meter Reader

We have just read a newspaper article wherein it is related that Antonio Moreno, movie star, was at one time meter reader and that one of his places to visit was the Coolidge home at Northampton, Mass.

Welsbach Street Lighting Company Brings Out New Traffic Signal Light

The Welsbach Street Lighting Company, Philadelphia, Pa., who have for many years contracted for the installation and maintenance of gas street lamps throughout the country, have added a new product which will be of interest to every man who drives an automobile.

Welsbach Traffic Signal Light

Their new product is a traffic signal light. The illustration shows one of the designs, and it operates independently of the electric street lighting system, being supplied with a current from a battery of long-life primary cells contained within the underground base of the unit. In this way continuous uninterrupted service is maintained similar to what is being done in railway switch signal lighting.

With this arrangement, the signal light can be placed anywhere on the highways. The signal flashes continuously day and night, and a control can be adjusted to any given number of flashes per minute, but experience has shown that 60 to 75 flashes are the most efficient.

This company also has an installation and maintenance department for electric lamps for street lighting.

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Convention Calendar

April

4-5—American Gas Association. Distribution Conference of Technical Section, Baltimore, Md.

6—Pennsylvania Gas Association. Annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa. G. L. Cullen, secretary-treasurer, Harrisburg, Pa.

7-8—Eastern States Gas Conference. Annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa. J. Calhoun Smith, secretary, Reading, Pa.

7-8—New Jersey Gas Association. Annual meeting, Bellevue-Stratford Hotel, Philadelphia, Pa. Louis Stoker, secretary, Newark, N. J.

19-22—Southern Gas Association. Annual meeting, Biltmore Hotel, Atlanta, Ga. J. P. Connolly, secretary, 141 Meeting Street, Charleston, S. C.

20-22—Midwest Gas Association. Annual convention, The St. Paul, St. Paul, Minn. H. R. Sterrett, secretary, 551 Seventh Street, Des Moines, Iowa.

26-29—Southwestern Public Service Association. Annual meeting, New Orleans, La. E. N. Willis, secretary, 403 Slaughter Bldg., Dallas, Texas.

Queensborough Gas & Electric Co. Readjusts Stock

Albany.—Queensborough Gas & Electric Company, has filed a certificate in the office of the Secretary of State reducing its number of shares from 150,000 shares $100 par value preferred stock, 500,000 shares non par value common stock to 500,000 shares common stock non par value, 125,500 shares preferred stock $100 par value.

DEMONSTRATE USE OF GAS IN NEWARK

Oriole Gas Range Factory Sends Expert to that Town—New Office of Company Opened

Wilmington, Del.—Mrs. Lois Shelton from the Oriole gas range factory at Baltimore demonstrated whole meal cooking and baking with the new oven regulator method all of the week, starting Monday, February 21, as the big feature marking the opening of the gas office in Newark.

Starting at 11 in the morning and continuing until 4 in the afternoon Mrs. Shelton demonstrated the oven regulation plan whereby a housewife desiring a roast dinner may fix the vegetables and meat, place them in the oven and then visit a movie, if she desires, if the show is not too long. It's the last word in scientific and safe method of cooking, and because the regulators work automatically it is the most satisfactory and far ahead of the old style way of guessing at the amount of heat needed.

* * *

To Lay High Pressure Gas Main

Albany.—The Public Service Commission has granted the Long Island Lighting Company permission to extend its gas plant in Northport, L. I., following demand for the use of gas. The company proposes to lay a high pressure gas main from Deer Park north into the village. It is estimated that thirteen hundred customers will be served by this extension.

* * *

Examination for Gas Meter Tester

Albany.—The Civil Service Commission will hold an examination April 9, for which application for entrance must be made not later than March 28, for the position of gas meter tester. Several immediate appointments expected in New York City office in department of public service, state division at $1500. Candidates must have at least a common school education or equivalent together with some mechanical training or experience which will enable them promptly to pick up the principles of the gas meter.

Pacific Coast Gas Association Conference

Los Angeles.—Another milestone in its year's progress was passed by the Pacific Coast Gas Association at its Southern Regional Conference held in Los Angeles on February 23 and 24. Attendance at the meeting was well over five hundred and included executives, accountants, commercial men, and engineers from all parts of the Pacific Coast.

The afternoon of the first day was devoted to a general meeting of all those in attendance, each section of the association contributing one number of the program. The accounting section presented Mr. T. H. Ross, an industrial engineer of Los Angeles, who talked ably on the use of statistics in business. The commercial section presented Mr. D. J. Young of Tacoma, who spoke on gas refrigeration. To illustrate his talk Mr. Young had an Electrolux-Servel refrigerator set up on the platform. The technical section presented Mr. H. L. Masser, gas engineer of the Los Angeles Gas & Electric Corporation, who told of the difficulties the Los Angeles companies had met in changing over in January from a 850 B.t.u. mixed gas to straight natural gas service. The public relations section presented a short one act playlette which showed the reaction of a new customer to prompt and efficient gas service. The playlette was written by Mr. Vernon Havenner, an electric meter man of the Los Angeles Gas & Electric Corporation, who also took a leading part in it.

On the evening of the same day business was forgotten and all members of the association and their wives attended a dinner in the main dining room of the Chamber of Commerce which was followed by dancing until midnight.

The second day of the conference was devoted to four parallel meetings of the sectional committee organization at which the problems assigned to committees were discussed. A transcript of these meetings was taken and will be supplied to all committee chairmen with a view to incorporating the ideas brought forth in discussion into their final reports which will be formally presented to the association at its convention in September.

Providence Gas Company Reports Larger Earnings

Providence, R. I.—The annual report of the Providence Gas Company presented at the annual meeting of the stockholders shows net earnings for the year ended December 31, 1926, of $1,298,124 against $1,209,267 for the previous year and $1,188,791 in 1924. After setting aside $300,000 for depreciation, net income for the year amounted to $998,124. Payment of $920,595 in dividends left surplus for the year of $77,529.

The following directors were reelected: Henry D. Sharpe, Webster Knight, Frank W. Matteson, William L. Hodgman, John B. Branch, Charles H. Manchester, John O. Ames, James R. MacColl, Frederick S. Peck, Florrimon M. Howe and William G. Roelker.

At a meeting of the directors the following officers were reelected:

Charles H. Manchester, president; Henry D. Sharpe, vice-president; Frederick C. Freeman, vice-president and engineer; Arthur F. Short, secretary and treasurer; Augustus W. Bourne, assistant treasurer.

The annual report reveals the following items in the year's work:

The new business department sold gas burning appliances to the amount of $312,827, an increase of 21 per cent.

The number of meters in use increased from 75,018 to 76,361, an increase of 1,343.

The company consumed 231,485 tons of gas coal, 20,135 tons of boiler fuel and 897,393 gallons of gas oil.

Coke sales totaled 131,864.

During the year the company installed 40 central heating plants using gas as a fuel in homes in its territory, making a total of 120 on December 31. These installations, it is said, are giving general satisfaction and the company expects a steady growth in the use of gas for house heating.

Contracts Awarded to Western Gas Construction Company

Rutland.—The Western Gas Construction Company has been awarded a contract by the Twin State Gas & Electric Company, Boston, Mass., for the furnishing and installing of equipment for Rutland, Vt. This equipment consisting of a 5 foot Western reversed air blast type water gas set, operating floor, purifiers, tar extractor, washer and scrubber.

Lewistown.—The Western Gas Construction Company has been awarded a contract by the Penn Central Light and Power Company for installing a 16 inch low pressure gas main and a 6 inch high pressure gas main at Lewistown, Pa.

The mains will connect the present distribution system in the town to the new plant now being constructed by the Western Gas Construction Company at the foot of Fleming Avenue. The 16 inch low pressure main will be constructed of heavy welded and rolled steel plate and will consist of approximately 3700 lineal feet. The 6 inch high pressure main will be of standard weight gas pipe consisting of approximately 3200 lineal feet. The mains will parallel each other and be laid in the same trench and will have valves and drips in convenient locations..

The lines will cross the Kishacoquillas Creek and these sections of pipe will be of extra heavy material, will be anchored to concrete piers embedded in the bank of the creek and on the bottom of the creek bed will be covered with stone.

The mains will extend along the streets and backfilling will be tamped. Service connections will be provided at all lots along the route. Branch connections will be installed for future distribution services in new and outlying districts.

Odessa.—Contract has been secured by The Western Gas Construction Company for a liquid purification plant having a capacity of 500,000 cu. ft. of natural gas per day, for erection at Odessa, Texas, for The Gulf Production Company of Fort Worth, Texas.

Philip H. Gadsden Candidate for Re-election As Director of Chamber of Commerce of the United States. Sketch of Career

Mr. Gadsden was born in Charleston, S. C., and began his career there, as a lawyer, having served three terms in the South Carolina Legislature. He subsequently retired from active practice of law and for fifteen years was directly in charge as vice-president and president of the management and direction of the street railway, gas, electric and water facilities in Charleston, S. C.

His unusual ability as a corporation executive was so pronounced that he was made a vice-president of the United Gas Improvement Company of Philadelphia, which is one of the large holding companies of the country, operating gas, electric and street railway properties. His ability has been recognized and appreciated throughout the country, and he is one of the best known public utility men in America today, having been president of the American Electric Railway Association, president of the Southern Gas Association, and president of the Eastern States Gas Conference. He is just commencing his second term as president of the Philadelphia Chamber of Commerce, and is also a director of the Pennsylvania State Chamber of Commerce.

Mr. Gadsden was appointed by the late President Wilson as a member of the Federal Electric Railways Commission to investigate the serious condition of the electric railways growing out of the World War. He was in Washington the entire period of the war, having been chairman of the National Committee on Public Utility Conditions. Thus, he represented the interests of the railway, gas and electric companies in the United States in connection with their war problems and did splendid work for such utilities.

Mr. Gadsden is a candidate for re-election in the Second District, comprising the states of New York, New Jersey, Pennsylvania, Delaware, Maryland and District of Columbia and is the only candidate who will be a direct representative of the public utilities, representing a total investment in America of about twenty-five billion dollars. It is, therefore, desirable that these industries, which are so vital to the country's commercial welfare, have a representative on the board, who, from experience, is intimately acquainted with their problems.

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Mr. Homer E. Rainville Appointed District Representative for the Fall River Gas Works Company

Mr. Homer E. Rainville has been recently appointed district representative for the Fall River Gas Works Company.

Mr. Rainville

An interesting announcement by way of a folder, printed in both French and English, was mailed out to customers and prospects. The district in which Mr. Rainville will serve is known as Flint Village and there is a very high concentration of French-speaking people in this territory; hence, the make-up of the announcement in two languages. Mr. Rainville was born in Montreal, Canada, later moving to Lonsdale, L. I. In April, 1926, he became a member of the Fall River Gas Works Co., where he spent several weeks learning the gas business in their various departments, and then, after this training, covered the Flint section as representative salesman.

Botfield Appoints Frank J. Donnelly to New York Office

Mr. Frank J. Donnelly has joined the New York office of Botfield Refractories Company, Philadelphia, Pa., and will cover the New Jersey territory under the direction of Mr. Chas. C. Phillips, New York district manager. Mr. Donnelly will co-operate with users of our product, Adamant Fire Brick Cement, and with every refractories user interested in prolonging brickwork life and in reducing repair costs.

* * *

Mrs. Caroll Stannard Hunt Dead

Mrs. Caroll Stannard Hunt, the daughter of Clare N. Stannard, vice-president and general manager of the Public Service Company of Colorado, died at the Presbyterian hospital, Denver, March 1, after two weeks illness, intestinal influenza.

Mrs. Hunt was the wife of Lowell D. Hunt, attorney, and the mother of three children. She was born at Binghamton, N. Y., September 20, 1894, educated at the Denver West High, the Colorado Teachers College and was a member of the Beta Sigma Omicron Sorority. Her children, husband, father and mother survive her.

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Gas, Light Deposits in Moultrie Upheld

Moultrie, Ga.—The city of Moultrie acted within its legal rights when it passed an ordinance requiring water and light consumers to post a guarantee that their bills would be paid, the State Supreme Court held in a decision just handed down. The case went to the high tribunal after objecting citizens had secured a temporary injunction.

The ordinance requires the posting of $3.50 as guarantee for the payment of light bills and $1.50 for water. Meters will be accepted in lieu of the cash guarantees.

The citizens attacking the ordinance in court contended that it was inspired by "landlords, who, in a few instances, had been required to pay water and light bills left unpaid by tenants when they moved." They argued that the city already has ample guarantee that water and light bills will be paid as "the property itself can be sold for that purpose."